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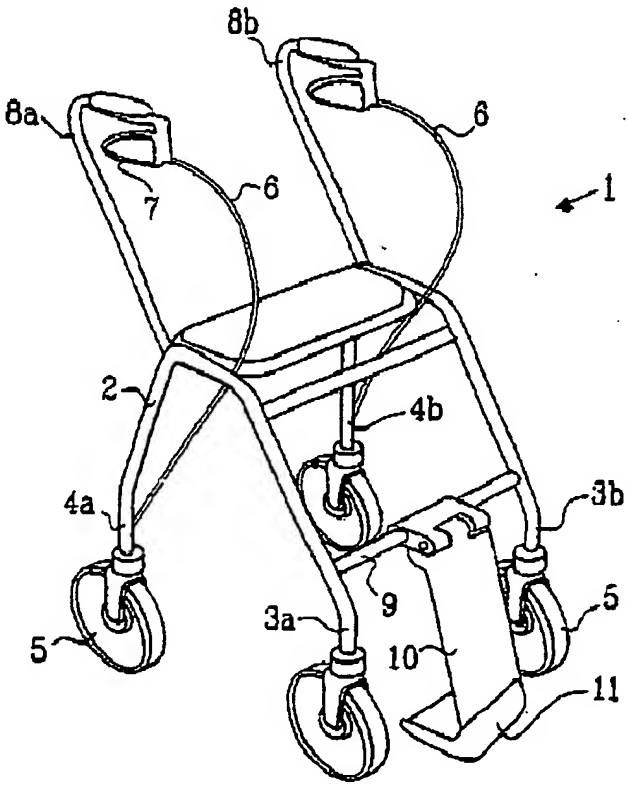

(57) Abstract: The present invention refers to a device for facilitating driving a rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel fitted to the depending frame part and a rear pair of wheels, which device incorporates a movable support (11) attachable to the rollable walker in the area of its forward castor wheels (5) and means adapted to move said movable support (11) in front of said forward castor wheels when it/they are projecting backwards, at lifting of the said front castor wheels about the rear pair of wheels. The invention furthermore incorporates a rollable walker equipped with such a device.

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A device for facilitating driving a rollable walker and a rollable walker provided with such a device

The present invention refers to a device for facilitating driving of a rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel, fitted to a depending frame part and a rear pair of wheels. The invention also refers to a rollable walker equipped with such a device.

When using rollable walkers is it difficult for disabled persons to pass over obstacles such as door sills and kerb stones.

This is due to the fact that the wheels have small diameters and that the handles are situated at a high level. When the rollable walker is pushed in the forward direction, the forward force will attack at the handles, which are situated at a comparatively high level and it is therefore required a large force to push up the front wheels of the rollable walker above the obstacle or the system might be self-braking if it is a steep obstacle. If it hereby is tried to push the rollable walker forward against the obstacle, using a high force it is possible that the rear end of the rollable walker might raise resulting in that the rollable walker will turn over in the forward direction.

It is often difficult to persons using rollable walker to pass over or up on door sills, kerb stones and similar smaller obstacles, as it is heavy, troublesome and means a temporary instability to lift the forward end of the rollable walker at the same time as the rollable walker is pushed forward, thus that the front wheel or wheels are pushed in over the obstacle.

Therefore the purpose of the present invention now is to offer a device and a rollable walker of the type described,

respectively, which is equipped with such a device, which is designed and equipped, respectively, with means adapted to permit in a simple and functional manner that the rollable walker can be easily moved up such level differences, which is for instance represented by a kerb stone and this has been achieved in that the device and the rollable walker respectively, have been given the features defined in the characterizing part of claim 1 and claim 18 respectively.

The invention describes two manners for circumventing the problem with passing low and high obstacles.

The device according to the invention can be manufactured as a separate asseccory or as part integral with the rollable walker.

For low obstacles such as door sills it is sufficient if the diameter of the front wheel is increased. As it is not practical to drive around with very big front wheels the big wheels have been replaced by a segment of a big wheel. The length of this segment shall assist the ordinary front wheels to get on top of the low obstacle.

Two different types of the segment are described in accordance with the invention.
One of the segments is constituted by a spoke having a track, which has a much bigger radius (e.g. 320 mm) than the ordinary front wheels of the rollable walker (e.g. 80 mm).
The other segment is constituted by a curved trolley (referred to as inline) having recessed wheels. The trolley is attached to the rollable walker via a retainer with wheels (4 wheels), which follow the radius of the trolley. The radius of the curvature of the trolley can be made very large (e.g. 350 mm) without requirement for much space. The bigger the radius of curvature is made, the easier is it for the wheels of the trolley to get over the obstacle. The drawback is that the bigger radius for managing a certain

height of the obstacle, the longer trolley is required. When using these solutions the rollable walker is driven over the obstacle without any action from the user. When the segment which is in its initial position, hits the obstacle, the track/the trolley will move over the obstacle and lift the front wheels of the rollable walker. When the front wheels are on top of the obstacle the track/trolley is relieved and moves back to initial position.

For high obstacles (e.g. kerb stones) the length of the segments is not sufficient for reaching above the obstacles. Then is utilized another function, which has three different principles. On one hand the two guides, on the other hand a function turning around the front wheel(s).

When using the invention at high obstacles the following will happen.

1. The user drives the rollable walker up to the obstacle until there is a stop.
2. The user applies the brakes of the rear wheels.
3. The user pulls the handles rearwards, whereby the front part of the rollable walker is raised.
4. The segment of the wheels pivot in over the obstacle.
5. The user pushes the handles in forward direction and the guide/wheels are brought down on top of the obstacle.
6. The user releases the brakes and drives in forward direction, whereby the guides move backwards or the wheel pivots backwards.
7. When the front wheels is on top of the obstacle the guides are relieved and return to their initial position.
8. When the rear wheels reach the obstacle it is easy for the user to get these up on the obstacle by pushing and at the same time lifting the handles.

Selection of function high/low obstacle.

At both solutions with segments it is possible to choose at which level the device shall change between the function for

high and low obstacle. This is selected before the rollable walker is used and it then operates automatically.

For the inline solution the limit is determined by the curvature of the guide, the length of the guide and its ground clearance. Also the inline solution can be equipped with a level yoke if it is desired that the user shall be able to adjust the limit between high and low obstacle.

For the yoke solution there is a level yoke the forward edge of which decides where the limit between high and low obstacle is positioned.

The function of the level arm is that it is positioned below the yoke and hits the obstacle before the yoke reaches it. The arm then will move the yoke backwards thus that the high function can be used. When the yoke is moved backwards the arm itself will be pivoted upwards in relation to the yoke. In order to minimize the required lifting distance when the front end of the rollable walker is raised, there is a function preventing that the arm moves downwards relative to the yoke when the front end of the rollable walker is raised. This function can either be a coupling between the lowermost position of the arm and the distance the yoke is pushed in or a catch preventing the arm from moving downwards when the yoke is in pushed in position.

Hereinafter the invention will be further described with reference to a number of embodiments schematically illustrated in the accompanying drawings.

Fig. 1 shows schematically an embodiment of a rollable walker according to the invention as seen in perspective.

Fig 2a-2e show in side view the function of the rollable walker according to Fig. 1, when driving up on a kerb stone (high obstacle).

Fig. 3 illustrates schematically the function of a device of the type illustrated in Fig. 1.

Fig. 3a-3d are views corresponding to Fig. 2a-2e of the embodiment, which is schematically shown in Fig. 3, but at passage of a low obstacle.

Fig. 3e illustrates in perspective and schematically a device according to Fig. 3a-3d, but shown without wheels.

Fig. 4 shows in another embodiment schematically and in perspective a three-wheel rollable walker according to the invention.

Fig. 5 is a partial view of a portion of the rollable walker according to Fig. 3, having a front wheel in driving position.

Fig. 6 shows a view corresponding to Fig. 5 with the front wheel in raised position.

Fig. 7 shows in a schematical perspective view a further embodiment of an auxiliary component for driving over kerb stones and the like.

Fig. 8 is a side view of the auxiliary component according to Fig. 7.

Fig. 9 shows the auxiliary component according to Fig. 7 and 8 in an end view from the front side.

Fig. 1 shows in perspective a rollable walker 1 equipped with a segment in the form of a portion of a wheel. The wheel incorporates a hub, a spoke and a track and the rollable walker incorporates furthermore an upright frame 2 with two front legs 3a, 3b and two rear legs 4a, 4b, respectively, each of which supports a castor wheel 5. The

rear castor wheels are braked by means of not further shown conventional brakes, which are actuated via brake wires 6, which are connected to brake handles 7, attached to two driving handles 8a, 8b, ascending from the frame just about at the rear legs 4a, 4b. Between the front legs 3a, 3b is provided at a distance above the wheels 5 a transversal frame portion 9 interconnecting the legs 3a, 3b. This transversal frame portion 9 supports, in the embodiment shown, a rail 10 which is pivotably supported at the transversal frame portion 9, which rail constitutes said spoke, which carries a support 11 fixedly connected to the outer end of the spoke, and which represents said track, and which in the embodiment shown is constituted by a rearwardly angled plate, which in its neutral position is situated in front of the front wheels 5 and preferably has an end portion projecting in between these wheels.

The rail 10 is spring biased, preferably at its journalling point about the frame part 9, thus that it tends to project in front of the front wheels 5, such as shown, e.g. in Fig. 2a, which shows the rollable walker 1 from the side adjacent a kerb stone 12.

In Fig. 2b is illustrated how the rollable walker 1 has been driven up against the (high obstacle) kerb stone 12, whereby the rail 10, against the action of the spring preload has been swung to a position, where the rail and the support fitted thereto are situated completely pushed in between the front wheels 5.

In this position the user of the rollable walker 1 can apply the brakes at the rear wheels 5, and at the same time by means of the handles 8a, 8b pivot the front wheels 5 up over the kerb stone 12, whereby, as illustrated in Fig. 2c, the rail 10 due to its spring preload is again moved forward to its position in front of the front wheels 5, where its

support 11 is positioned above the kerb stone and extends a distance in over the kerb stone.

When the support 11 is situated in this position (Fig. 2c) it is possible to advance the rollable walker 1 after the brakes have been disengaged, up above and along the upper side of the kerb stone, such as shown in Fig. 2d and 2e. In the position shown in Fig. 2e the rear pair of wheels 5 of the rollable walker may easily be pivoted upwards thus that the entire rollable walker is situated on the upper side of the kerb stone or the like.

In this manner, it has with simple means been created a rollable walker of conventional design equipped with an accessory which is simple both structurally and functionally and by aid of which the problem with moving the rollable walker over kerb stones, door sills or the like has been eliminated to a large extent without giving the rollable walker more operational means, which make the handling of the rollable walker more difficult for the user.

In Fig. 3 is shown schematically an accessory of the type in question, which illustrates the principle of the embodiment according to Fig. 1 and 2, and which is designed as a curved yoke, which forms a segment 20 of a track of an imagined wheel having a spoke 21 with a bigger and preferably much bigger radius than the front castor wheel of a rollable walker on which the accessory shall be mounted. This spoke 21 is rotatably mounted about a hub 22, which directly or via a bracket 23 is attachable to the frame of a rollable walker, thus that the curved yoke is situated between the front wheels of the rollable walker.

For driving over low obstacles, such as door sills it should be sufficient to provide the rollable walker with wheels of a larger diameter, but on the other hand it is unpractical to drive with very big front wheels and for that reason such

big wheels have been replaced by the yoke-shaped wheel segment according to Fig. 3. Due to the length of the segment the ordinary front wheels of the rollable walker will reach up on the low obstacle.

Fig. 3 shows schematically an embodiment of an accessory, which makes it possible for the accessory, by means of an adjustment, to be caused to consider the obstacle as high or low. This is effected in that the level of the front portion of the level yoke 24 is adjusted. If the obstacle is lower than the front portion, then the obstacle is considered to be low.

Fig. 3a shows schematically the rollable walker advancing a low obstacle. During the entire sequence the user pushes the rollable walker in forward direction without stopping or making any manipulations.

Fig. 3b shows the position when the obstacle is engaged by the track of the yoke. From this position the track will take over the function of the forward wheel and raises the front end of the rollable walker. Then the yoke will move backwards relative to the rollable walker, as if it was a wheel of big diameter.

Fig. 3c shows the position when the ordinary front castor wheel engages the obstacle. The ordinary front wheel then will resume the function as a front support, whereby the yoke is relieved from load.

Fig. 3d shows the wheel on top of the obstacle when the yoke has resumed its ordinary forward position.

In the embodiment with the yoke according to Fig. 3 there is preferably a level arm 24 connected to the yoke, which arm is adjustable thus that its front edge can take up different levels above the base, and which therefore determines at

which level of an obstacle, the yoke shall serve for letting the front wheels of the rollable walker reach above the obstacle or for making the yoke be moved backwards under increasing tension in order thereupon to bridge the obstacle when the front end of the rollable walker is raised in the manner described hereinbefore. When the yoke is moved backwards the level arm will be pivoted upwards in relation to the yoke. For minimizing the required lifting height when the front end of the rollable walker is raised there are means preventing the level arm from moving downwards relative to the yoke when the front end of the rollable walker is raised. These means may either be a coupling between the lowest position of the level arm and the pushing in of the yoke, or a catch, which prevents the level arm from moving downwards when the yoke is in its pushed in position. These means are illustrated in Fig. 3 as a schematical coupling 25 and a catch 26 shown in a dash-and-dot fashion.

Fig. 3e shows in perspective the segment 20 with its spoke 21 attached to the hub and the level yoke 24 and as can be seen here, the level yoke is preferably designed as a U-formed arm, the U-shanks of which extend on opposite sides of the segment 20 and has ends of the U-shanks articulatedly attached to a retainer at the end of the segment facing backwards.

In Fig. 4 is shown in perspective an alternative embodiment according to the present invention applied at another type of rollable walker than that shown in Fig. 1. This rollable walker 100 is equipped with a frame 101 having two rearward frame portions 102 with a substantially vertical extension and each one of which at the upper part is shaped as a handle 103 with a brake handle 104 and which at its lower end supports a wheel 105 equipped with, not further shown brake components. To these frame portions 102 attach a forward oriented, third frame portion 106 which is

substantially vertical, and which is situated in front of the rearward frame portions and which at the lower side supports an articulatedly supported castor wheel 107, the design and function of which will be further described with reference to Fig. 5 and 6.

Fig. 5 shows a schematical cross section through a part of the third frame portion 106 with the wheel 107 at the embodiment according to Fig. 4. The lower part of the frame portion 106, as can be seen, is tubular and includes a spring 108, which engages a fixed bottom 109 of the tubular part 110. The castor wheel 107 is rigidly connected to a vertical shaft 111, which extends rotatably and axially movably through a fixed guide 112 provided in the tubular part and which ends with a widened head 113 between the guide 112 and the spring 108. On its side facing away from the wheel 107, the guide 112 is equipped with an oblique surface 114 sloping in the forward direction, and the widened head 113 of the vertical shaft 111 on its end facing the guide is also equipped with a surface 115 sloping to the same extent. The dimensions of the tubular part, the vertical shaft 111, the spring 108 and the positioning of the guide 112 and the strength of the spring are such, that, when the rollable walker is driven in normal manner on a smooth base, the contact pressure between the base and the castor wheel 107, as shown, will compress the spring 108 between the fixed bottom 109 and the upper part of the widened head 113 of the vertical shaft 11, thus that the sloping surfaces 114 on the guide 112 and 115 on the widened head 113 on the shaft 111 are separated. During rolling the front wheel 107, which is designed as a castor wheel, therefore will adjust itself with the angled part of the sleeving arm facing backwards.

Turning of the castor wheel is achieved both from the spring force and from the influence of gravity on the wheel.

When the front castor wheel is raised such as shown in Fig. 6, preferably in that the rollable walker in braked position is tilted backwards about the rear, fixed wheels 105, the spring 108 will urge the vertical shaft 111 downwards, whereby the sloping surface 115 on the widened head 113 will contact the fixed, sloping surface 114 of the guide 112, whereby the force of the spring 108 will pivot the shaft 111 of the castor wheel 107, which is rotatable in the guide, thus that the castor wheel is turned in forward direction, such as illustrated in Fig. 6. In this position the castor wheel thus is pointing in the forward direction and can be moved in over, e.g. a kerb stone or another obstacle in that the brakes are released, i.e. the user releases the brake handles.

In Fig. 7 to 9 is shown an alternative embodiment of an accessory 200 applicable to a rollable walker of the type in question, and which in the same manner as the embodiments earlier shown and described is moved forward over an obstacle situated ahead of it when the front end is raised.

This embodiment is particularly appropriate in cases where a low constructional height is desired.

In Fig. 7 is shown in perspective the accessory 200 according to the invention, and which incorporates a retainer 201, which with a (not shown) fitting is attachable to the lower side of a rollable walker in connection to the front wheel of the rollable walker, and preferably between two front wheels. The retainer 201 is positioned thus that the ground wheels of the trolley have their lowermost point above the contact point of the front wheels against the base, when the front wheels are in the rearward angled position and it is mainly tray-shaped and has in the embodiment shown, one wheel 202 adjacent each one of its corners. These wheels 202 act as guide wheels for a trolley 203, provided with a number of ground wheels 204, intended

to roll against the base. The trolley 203 thus is movably supported on the guide wheels 202 of the retainer and it is preloaded by means of a (not further shown) spring arrangement, thus that it in normal, uninfluenced driving position, is situated in a forward end position, such as shown in Fig. 8, where it projects in front of the front end of the retainer 201 and therefor in front of the front wheels of the (not shown) rollable walker. The trolley 203 is equipped with curved tracks 205, 206 for the guide wheels 202. The radius of curvature of these tracks is big, and can for instance be about 500 mm.

The retainer 201 is positioned and oriented thus that the ground wheels 204 of the trolley have their lowermost point at a level somewhat above the front wheels of the rollable walker at driving in forward direction on a substantially planar base.

As shown in Fig. 9 the ground wheels 204 are arranged in two rows and they are mutually displaced in the longitudinal direction, for avoiding that the wheels 204 are get stuck when driving over edges.

With a rollable walker equipped with an accessory 200 of this kind, at driving over a door sill, one of the ground wheels 204 will hit. Due to where the friction is at its minimum the trolley 203 will either move into the retainer 201 against the action of the spring preload, or the ground wheels will roll directly over the door sill.

If the trolley 203 with its front edge hits a kerb stone or a higher door sill, the trolley will be pushed backwards into the retainer 201 against the action of the spring preload. When the trolley has been pushed at least a little bit into the retainer and its front edge engages the kerb stone, its rear wheels are braked and the handles of the rollable walker are moved backwards thus that the front part

is raised. Due to the spring preload, the trolley 203 is hereby pushed in forward direction and over the kerb stone and the rollable walker can be driven on at the higher level after a simple lifting of the rearmost wheels.

The invention is not limited to the embodiments shown and described in connection thereto but modifications and variants are possible within the scope of the following claims.

CLAIMS

1. A device for facilitating driving of a rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel fitted to the depending frame part and a rear pair of wheels,
c h a r a c t e r i z e d t h e r e i n,
that the device incorporates a movable support (11; 20;107; 203) attachable to the rollable walker in the area of its forward castor wheels (5, 107) and means adapted to move said movable support (11; 20;107; 203) in front of said forward castor wheels when it/they are projecting backwards, at lifting of the said front castor wheels about the rear pair of wheels.

2. A device as claimed in claim 1,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by a member which in unifluenced position projects in front of said front castor wheels, and is adapted to be pushed backwards by a contact force against an obstacle under an increased preload, and to be moved due to the preload in over the obstacle after lifting of the said front wheel above the obstacle.

3. A device as claimed in claim 2,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by a yoke (11, 20) subjected to a spring load.

4. A device as claimed in claim 2 or 3,
c h a r a c t e r i z e d t h e r e i n,
that the yoke is a segment of a track (20) of a wheel, which via a spoke (21) is turnable about a hub (22) having a bigger radius than said castor wheel.

5. A device as claimed in claim 4,
characterized therein,
that the track (20) is designed thus that it for smaller obstacles operates as a wheel having a bigger diameter than the ordinary front castor wheel.

6. A device as claimed in claim 3 or 4,
characterized therein,
that the yoke is equipped with an adjustable level arm (24) arranged below the front portion of the yoke and adapted to hit an obstacle before the yoke (20) hits, when driving against an obstacle.

7. A device as claimed in claim 6,
characterized therein,
that the level arm (24) is provided with means (25; 26), causing the arm to be freely movable downwards to its lowermost position when the yoke (20) is in a position of rest, and which arm is freely movable upwards when the yoke is caused to move backwards.

8. A device as claimed in claim 7,
characterized therein,
that the level for the lowest position of the level arm (24) is adjustable.

9. A device as claimed in claim 1,
characterized therein,
that the movable support is constituted by the front castor wheel (107) of the rollable walker, which is adapted to be rotated from its normal driving position to a position where it is projecting in forward direction above an obstacle, when said front wheels are raised.

10. A device as claimed in claim 9,
characterized therein,
that the rotation of the castor wheel (107) from its normal driving position to a position projecting in the forward direction is effected by spring force.

11. A device as claimed in claim 9,
characterized therein,
that the rotation of the castor wheel (107) from its normal driving position to a position projecting in the forward direction is effected by the geometrical design of the castor wheel.

12. A device as claimed in claim 9,
characterized therein,
that the rotation of the castor wheel (107) from its normal driving position to a position projecting in the forward direction is effected by mechanical actuation.

13. A device as claimed in claim 1,
characterized therein,
that the movable support is constituted by a track (201) for a wheel-equipped (202) curved trolley (203), adapted under spring influence to project from said track in the forward direction of the rollable walker, and to be preloaded at engagement against an obstacle ahead, for being pushed forward at subsequent raising of the front wheels of the rollable walker under influence of the spring preload, and thereby out above the obstacle.

14. A device as claimed in claim 13,
characterized therein,
that the track (201) is designed thus that it operates as a wheel having bigger diameter than the ordinary front castor wheel for passage of low obstacles.

15. A device as claimed in claim 13,
c h a r a c t e r i z e d t h e r e i n,
that the trolley (203) is equipped with an adjustable level arm (24) provided under the forward part of the yoke and adapted when driving against an obstacle to hit this before the trolley (203).

16. A device as claimed in claim 15,
c h a r a c t e r i z e d t h e r e i n,
that the level arm is equipped with means, making the arm freely movable downwards to its lowest position when the yoke is in a rest position, and freely movable upwards when the yoke is brought backwards.

17. A device as claimed in claim 16,
c h a r a c t e r i z e d t h e r e i n,
that the level for the lowest position of the level arm (24) is adjustable.

18. A rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel fitted to the depending frame part and a rear pair of wheels,
c h a r a c t e r i z e d t h e r e i n,
that the rollable walker in the area of its forward wheels is provided with a movable support and means adapted to move said movable support in front of said forward castor wheels when it/they are projecting backwards, in accordance with anyone of claims 2-17.

AMENDED CLAIMS

[received by the International Bureau on 20 August 2002 (20.08.02); original claim 1 amended; remaining claims unchanged (1 page)]

1. A device for facilitating driving of a rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel fitted to the depending frame part and a rear pair of wheels,
c h a r a c t e r i z e d t h e r e i n,
that the device incorporates a movable support (11; 20;107; 203) attachable to the rollable walker in the area of its forward castor wheels (5, 107) and means adapted to move said movable support (11; 20;107; 203) horizontally in front of said forward castor wheels when it/they are projecting backwards, at lifting of the said front castor wheels about the rear pair of wheels.

2. A device as claimed in claim 1,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by a member which in unifluenced position projects in front of said front castor wheels, and is adapted to be pushed backwards by a contact force against an obstacle under an increased preload, and to be moved due to the preload in over the obstacle after lifting of the said front wheel above the obstacle.

3. A device as claimed in claim 2,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by a yoke (11, 20) subjected to a spring load.

4. A device as claimed in claim 2 or 3,
c h a r a c t e r i z e d t h e r e i n,
that the yoke is a segment of a track (20) of a wheel, which via a spoke (21) is turnable about a hub (22) having a bigger radius than said castor wheel.

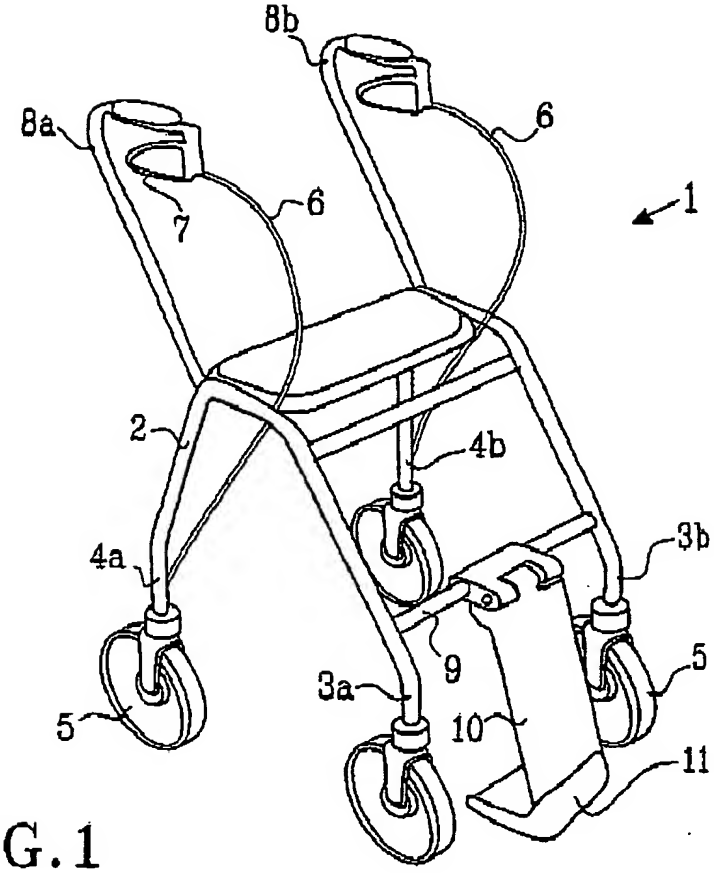

FIG.1

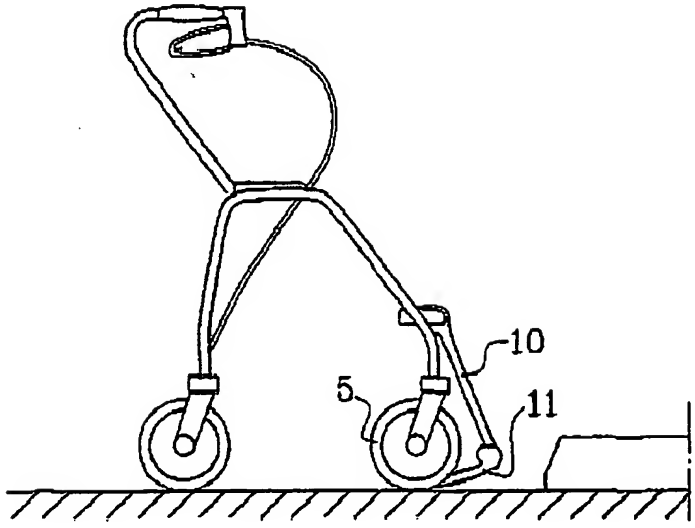

FIG.2a

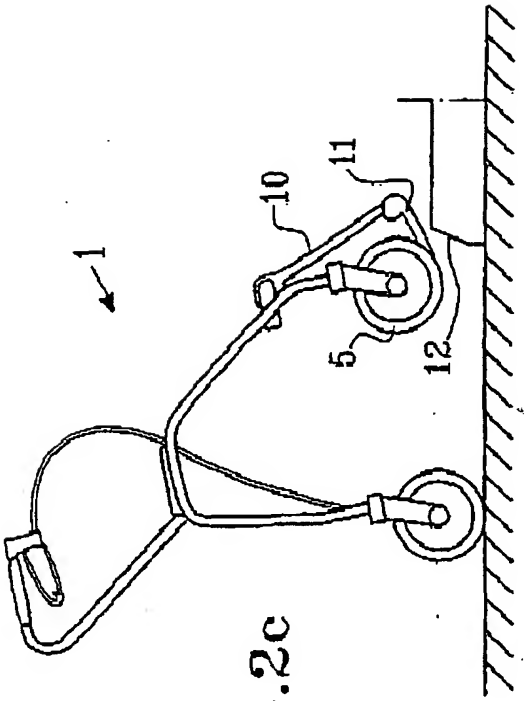

FIG.2c

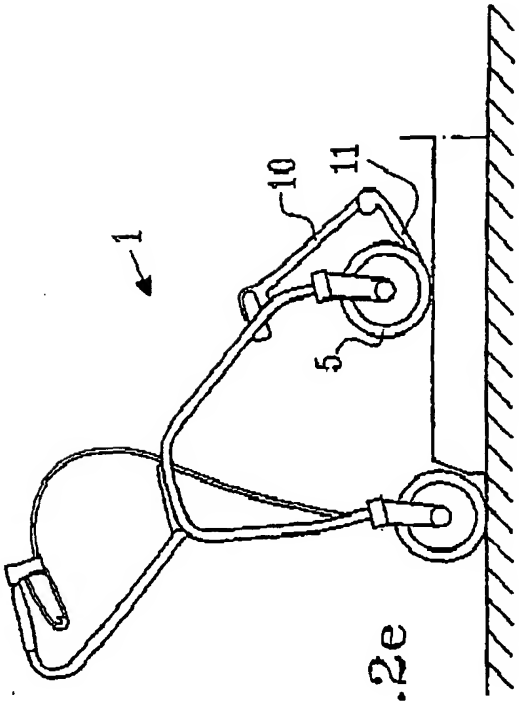

FIG.2e

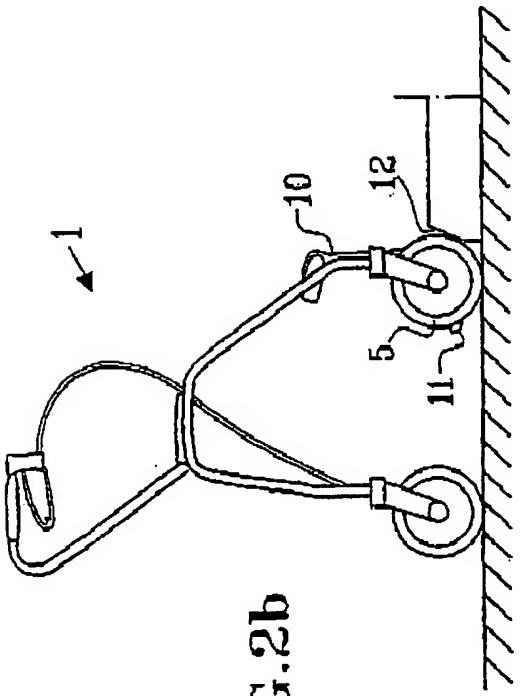

FIG.2b

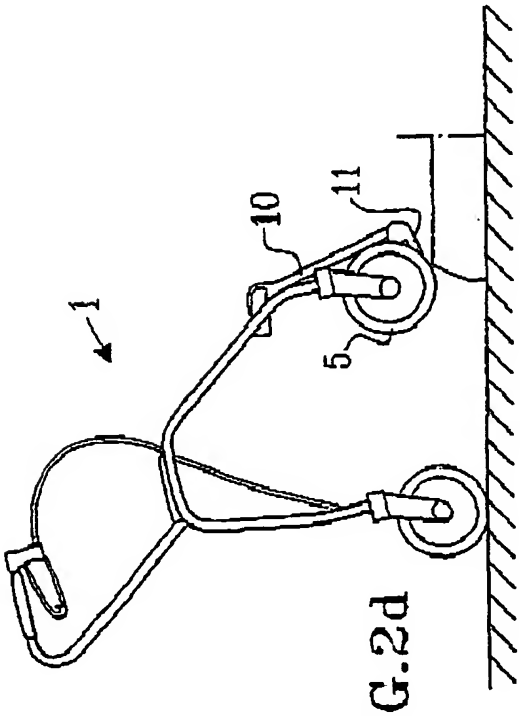

FIG.2d

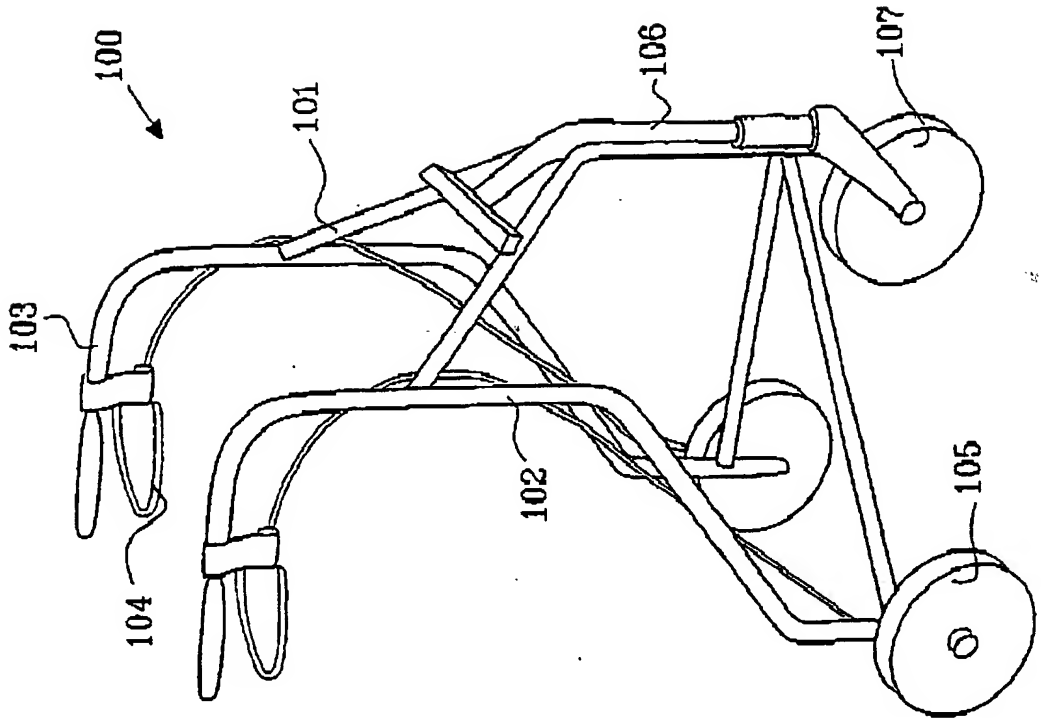

FIG.4

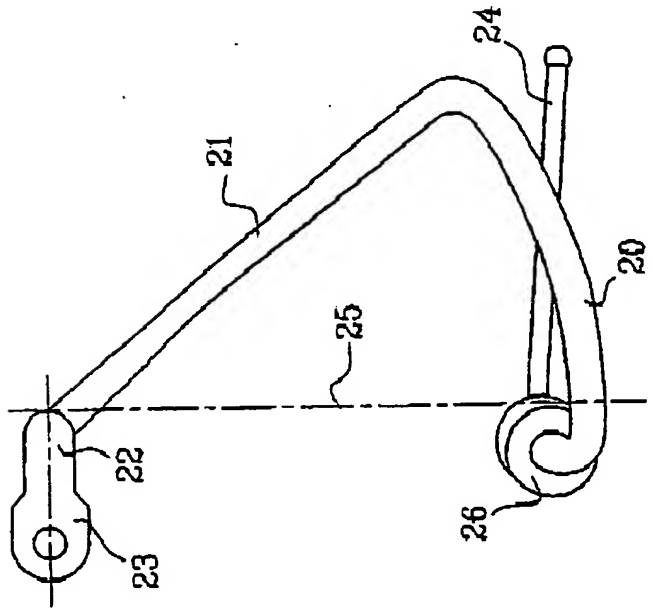

FIG.3

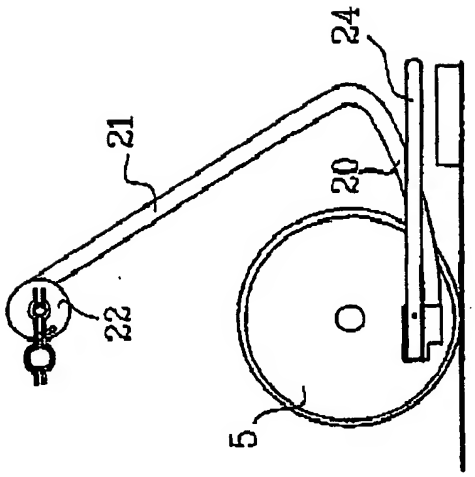

FIG.3b

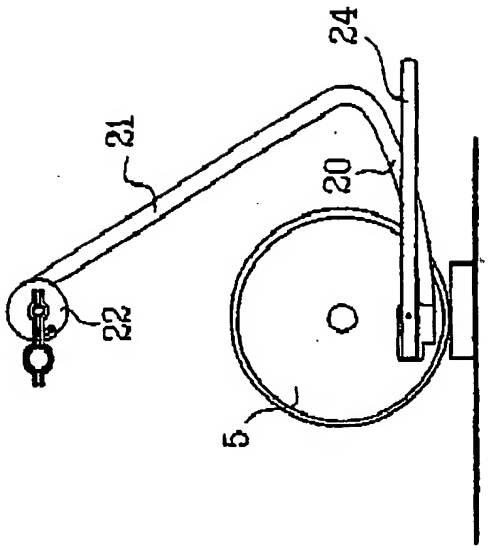

FIG.3d

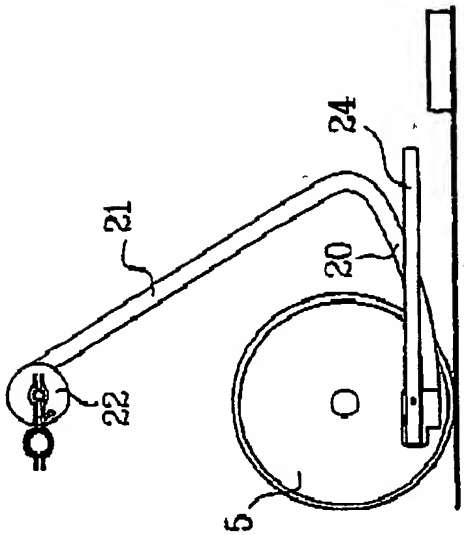

FIG.3a

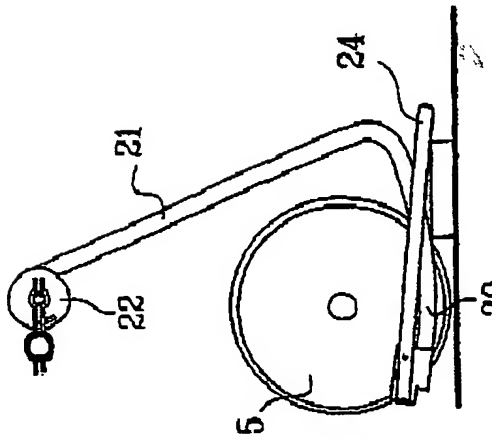

FIG.3c

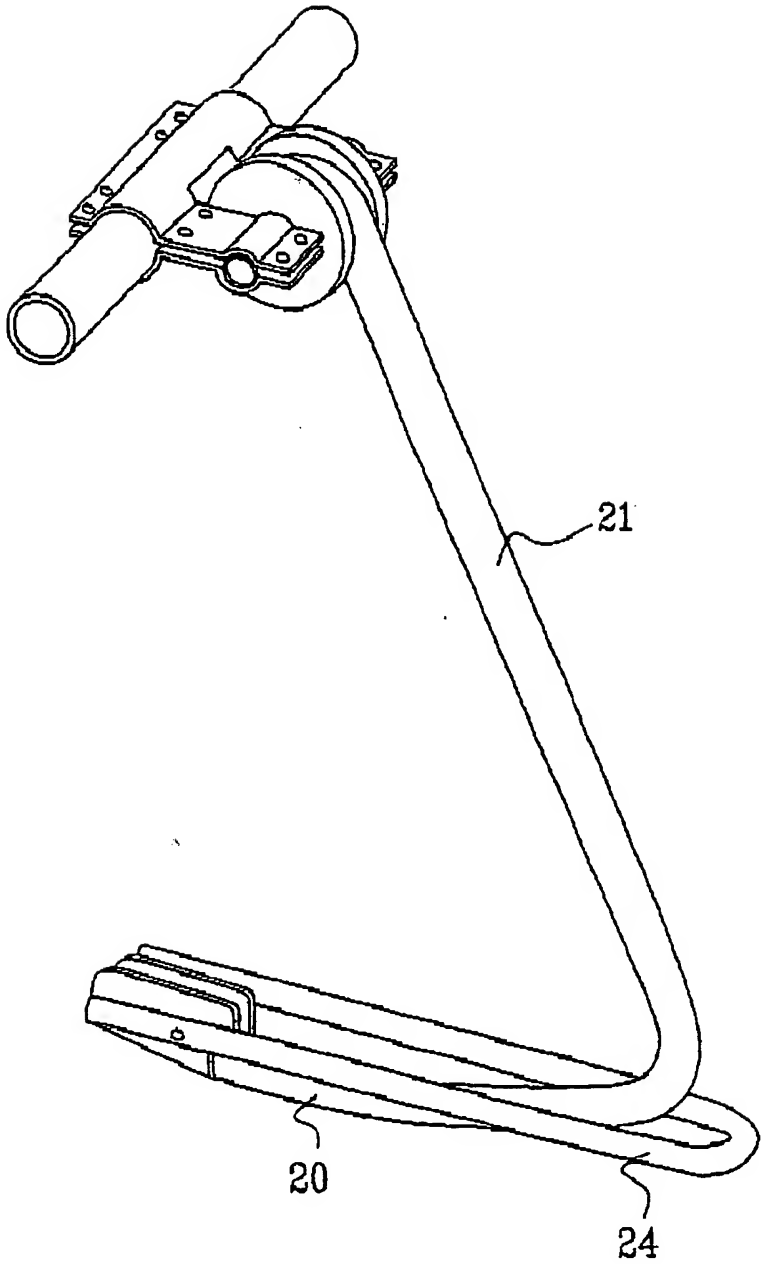

FIG.3e

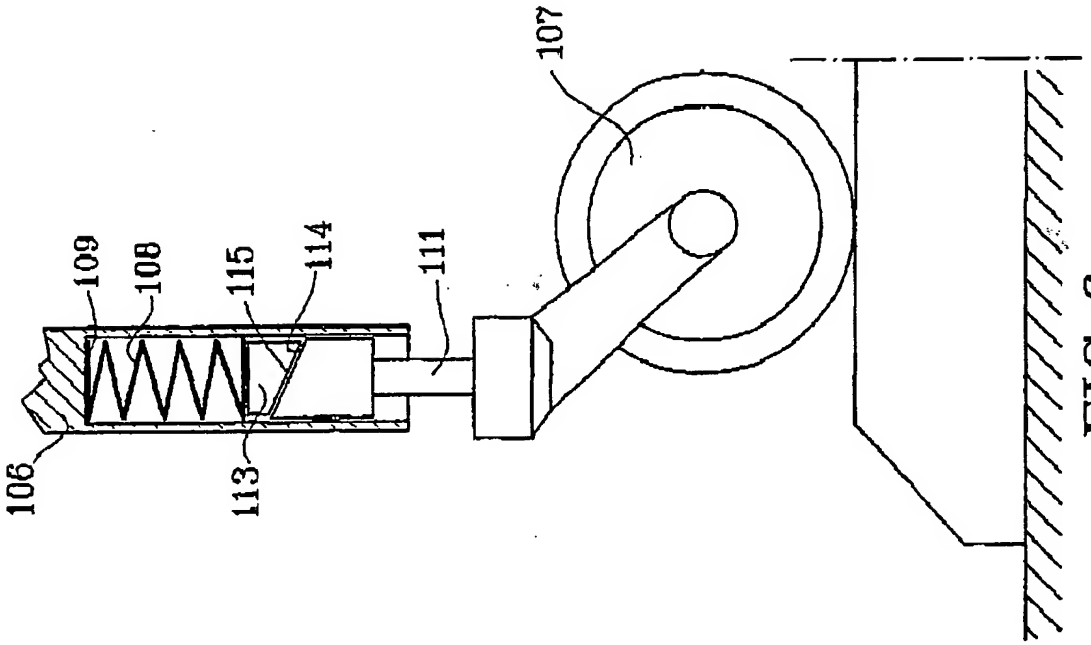
107
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FIG.6

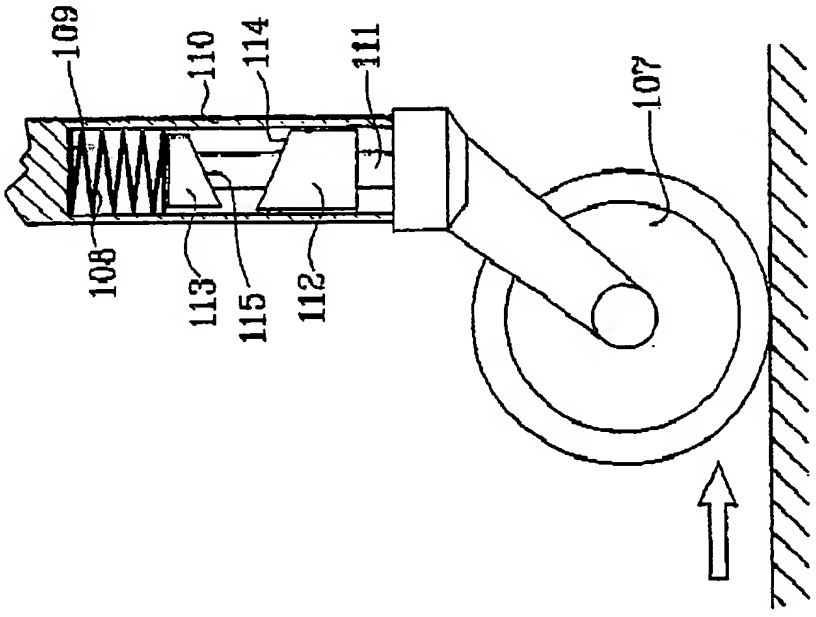
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FIG.5

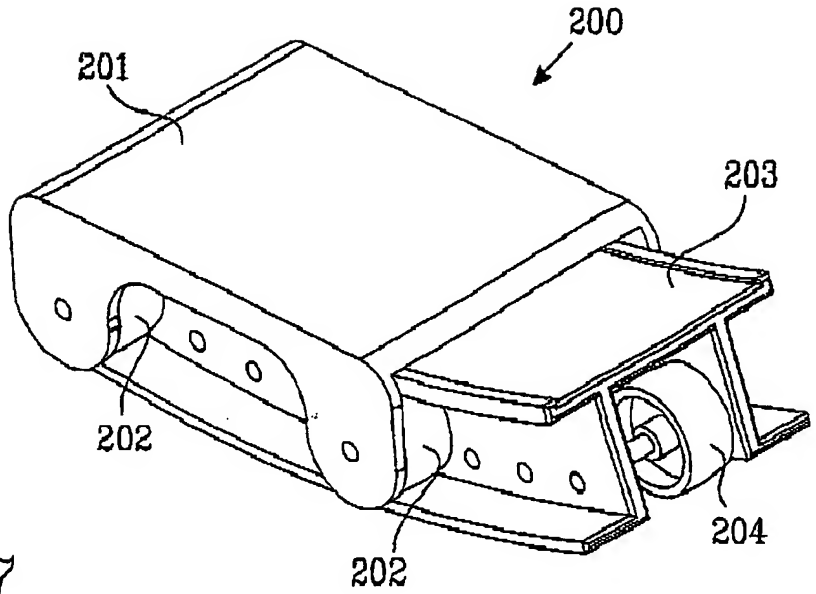

FIG.7

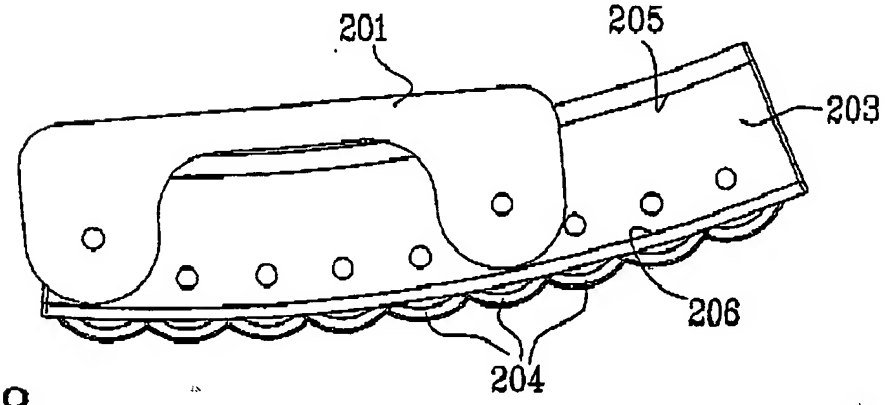

FIG.8

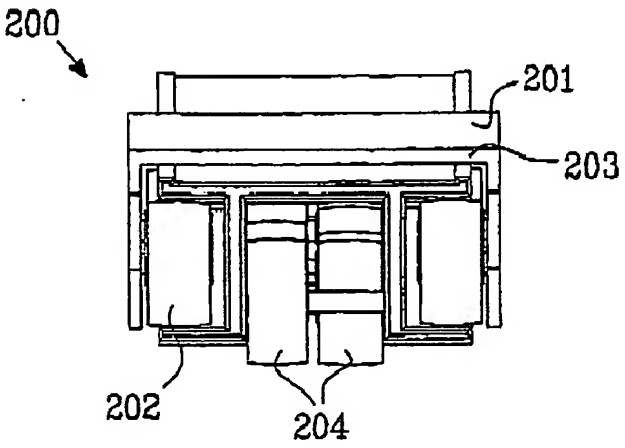

FIG.9

SENT BY FAX
Date: 01.03.2002

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference *(if desired) (12 characters maximum)* P16130PC/SC

Box No. I TITLE OF INVENTION A device for facilitating driving a rollable walker and a rollable walker provided with such a device

Box No. II APPLICANT ☐ This person is also inventor

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

MARGANA AG
Oberstrasse 16
3360 HERZOGENBUCHSEE
SCHWEIZ

Telephone No.

Facsimile No.

Teleprinter No.

Applicant's registration No. with the Office

State *(that is, country)* of nationality: CH

State *(that is, country)* of residence: CH

This person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

PALMERS, Göran
Hållstamsvägen 35
SE-436 39 ASKIM
Sweden

This person is:
☐ applicant only
☒ applicant and inventor
☐ inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality: SE

State *(that is, country)* of residence: SE

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: ☒ agent ☐ common representative

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

GÖTEBORGS PATENTBYRÅ DAHLS AB
Sjöporten 4
SE-417 64 GÖTEBORG
Sweden

Telephone No.
+46 31 507700

Facsimile No.
+46 31 7790640

Teleprinter No.

Agent's registration No. with the Office

☐ **Address for correspondence:** Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet should not be included in the request.

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

KRON, Bengt
Spannmålsgatan 12 B
SE-461 30 TROLLHÄTTAN
Sweden

This person is:
- [ ] applicant only
- [x] applicant and inventor
- [ ] inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality: SE

State *(that is, country)* of residence: SE

This person is applicant for the purposes of:
- [ ] all designated States
- [ ] all designated States except the United States of America
- [x] the United States of America only
- [ ] the States indicated in the Supplemental Box

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

This person is:
- [ ] applicant only
- [ ] applicant and inventor
- [ ] inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality:

State *(that is, country)* of residence:

This person is applicant for the purposes of:
- [ ] all designated States
- [ ] all designated States except the United States of America
- [ ] the United States of America only
- [ ] the States indicated in the Supplemental Box

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

This person is:
- [ ] applicant only
- [ ] applicant and inventor
- [ ] inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality:

State *(that is, country)* of residence:

This person is applicant for the purposes of:
- [ ] all designated States
- [ ] all designated States except the United States of America
- [ ] the United States of America only
- [ ] the States indicated in the Supplemental Box

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

This person is:
- [ ] applicant only
- [ ] applicant and inventor
- [ ] inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality:

State *(that is, country)* of residence:

This person is applicant for the purposes of:
- [ ] all designated States
- [ ] all designated States except the United States of America
- [ ] the United States of America only
- [ ] the States indicated in the Supplemental Box

- [ ] Further applicants and/or (further) inventors are indicated on another continuation sheet.

Box No. V DESIGNATION OF STATES *Mark the applicable check-boxes below: at least one must be marked*

The following designations are hereby made under Rule 4.9(a):

Regional Patent

☒ AP **ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZM Zambia, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT *(if other kind of protection or treatment desired, specify on dotted line)* .....

☒ EA **Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT

☒ EP **European Patent:** AT Austria, BE Belgium, CH & LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT

☒ OA **OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GQ Equatorial Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT *(if other kind of protection or treatment desired, specify on dotted line)* .....

National Patent *(if other kind of protection or treatment desired, specify on dotted line)*:

☒ AE United Arab Emirates	☒ GM Gambia	☒ NZ New Zealand
☒ AG Antigua and Barbuda	☒ HR Croatia	☒ OM Oman
☒ AL Albania	☒ HU Hungary	☒ PH Philippines
☒ AM Armenia	☒ ID Indonesia	☒ PL Poland
☒ AT Austria and utility model	☒ IL Israel	☒ PT Portugal
☒ AU Australia	☒ IN India	☒ RO Romania
☒ AZ Azerbaijan	☒ IS Iceland	☒ RU Russian Federation
☒ BA Bosnia and Herzegovina	☒ JP Japan	
☒ BB Barbados	☒ KE Kenya	☒ SD Sudan
☒ BG Bulgaria	☒ KG Kyrgyzstan	☒ SE Sweden
☒ BR Brazil	☒ KP Democratic People's Republic of Korea	☒ SG Singapore
☒ BY Belarus		☒ SI Slovenia
☒ BZ Belize	☒ KR Republic of Korea	☒ SK Slovakia and utility model
☒ CA Canada	☒ KZ Kazakhstan	☒ SL Sierra Leone
☒ CH & LI Switzerland and Liechtenstein	☒ LC Saint Lucia	☒ TJ Tajikistan
☒ CN China	☒ LK Sri Lanka	☒ TM Turkmenistan
☒ CO Colombia	☒ LR Liberia	☒ TN Tunisia
☒ CR Costa Rica	☒ LS Lesotho	☒ TR Turkey
☒ CU Cuba	☒ LT Lithuania	☒ TT Trinidad and Tobago
☒ CZ Czech Republic and utility model	☒ LU Luxembourg	
☒ DE Germany and utility model	☒ LV Latvia	☒ TZ United Republic of Tanzania
☒ DK Denmark and utility model	☒ MA Morocco	☒ UA Ukraine
☒ DM Dominica	☒ MD Republic of Moldova	☒ UG Uganda
☒ DZ Algeria		☒ US United States of America
☒ EC Ecuador	☒ MG Madagascar	
☒ EE Estonia and utility model	☒ MK The former Yugoslav Republic of Macedonia	☒ UZ Uzbekistan
☒ ES Spain		☒ VN Viet Nam
☒ FI Finland and utility model	☒ MN Mongolia	☒ YU Yugoslavia
☒ GB United Kingdom	☒ MW Malawi	☒ ZA South Africa
☒ GD Grenada	☒ MX Mexico	☒ ZM Zambia
☒ GE Georgia	☒ MZ Mozambique	☒ ZW Zimbabwe
☒ GH Ghana	☒ NO Norway	

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

☐ ..... ☐ ..... ☐ .....

☐ ..... ☐ ..... ☐ .....

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. *(Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)*

Box No. VI PRIORITY CLAIM

The priority of the following earlier application(s) is hereby claimed:

Filing date of earlier application *(day/month/year)*	Number of earlier application	Where earlier application is:		
		national application: country	regional application:* regional Office	international application: receiving Office
item (1) 9 March 2001	0100845-7	SE		
item (2)				
item (3)				
item (4)				
item (5)				

☐ Further priority claims are indicated in the Supplemental Box.

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) *(only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office)* identified above as:

☐ all items ☒ item (1) ☐ item (2) ☐ item (3) ☐ item (4) ☐ item (5) ☐ other, see Supplemental Box

* *Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)):* ....

.....

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) *(if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used)*:

ISA / SE .....

Request to use results of earlier search; reference to that search *(if an earlier search has been carried out by or requested from the International Searching Authority)*:

Date *(day/month/year)*	Number	Country *(or regional Office)*
9 March 2001	SE 01/00306	SE

Box No. VIII DECLARATIONS

The following **declarations** are contained in Boxes Nos. VIII (i) to (v) *(mark the applicable check-boxes below and indicate in the right column the number of each type of declaration)*:

Number of declarations

☐ Box No. VIII (i)	Declaration as to the identity of the inventor	:
☐ Box No. VIII (ii)	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	:
☐ Box No. VIII (iii)	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	:
☐ Box No. VIII (iv)	Declaration of inventorship (only for the purposes of the designation of the United States of America)	:
☐ Box No. VIII (v)	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	:

Box No. IX CHECK LIST; LANGUAGE OF FILING

This international application contains:

(a) the following number of sheets in paper form:

request (including declaration sheets)	:	5
description (excluding sequence listing part)	:	8
claims	:	4
abstract	:	1
drawings	:	7
Sub-total number of sheets	:	25
sequence listing part of description *(actual number of sheets if filed in paper form, whether or not also filed in computer readable form: see (b) below)*	:	
Total number of sheets	:	25

(b) sequence listing part of description filed in computer readable form

(i) ☐ only (under Section 801(a)(i))

(ii) ☐ in addition to being filed in paper form (under Section 801(a)(ii))

Type and number of carriers (diskette, CD-ROM, CD-R or other) on which the sequence listing part is contained *(additional copies to be indicated under item 9(ii), in right column)*: .....

This international application is accompanied by the following item(s) *(mark the applicable check-boxes below and indicate in right column the number of each item)*:

		Number of items
1. ☒	fee calculation sheet	:
2. ☒	original separate power of attorney	:
3. ☐	original general power of attorney	:
4. ☐	copy of general power of attorney; reference number, if any:	:
5. ☐	statement explaining lack of signature	:
6. ☐	priority document(s) identified in Box No. VI as item(s):	:
7. ☐	translation of international application into *(language)*:	:
8. ☐	separate indications concerning deposited microorganism or other biological material	:
9. ☐	sequence listing in computer readable form (indicate also type and number of carriers (diskette, CD-ROM, CD-R or other))	
	(i) ☐ copy submitted for the purposes of international search under Rule 13*ter* only (and not as part of the international application)	:
	(ii) ☐ *(only where check-box (b)(i) or (b)(ii) is marked in left column)* additional copies including, where applicable, the copy for the purposes of international search under Rule 13*ter*	:
	(iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing part mentioned in left column	:
10. ☒	other *(specify)*: ITS-Report	:

Figure of the drawings which should accompany the abstract: 1

Language of filing of the international application: Swedish

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

Göteborg, 26 february 2002

Börje Westman

GÖTEBORGS PATENTBYRÅ DAHLS AB

For receiving Office use only

1. Date of actual receipt of the purported international application:

2. Drawings:
☐ received:
☐ not received:

3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:

4. Date of timely receipt of the required corrections under PCT Article 11(2):

5. International Searching Authority (if two or more are competent): ISA /

6. ☐ Transmittal of search copy delayed until search fee is paid

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:
GÖTEBORGS PATENTBYRÅ DAHLS AB
Sjöportén 4
S-417 64 Göteborg
Sweden

Date of mailing (day/month/year)	
19 September 2002 (19.09.02)	
Applicant's or agent's file reference	IMPORTANT NOTICE
P16130PC/SC	

International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/SE02/00366	01 March 2002 (01.03.02)	09 March 2001 (09.03.01)

Applicant
MARGANA AG et al

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:

   KP,KR,US

   In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

   AE,AG,AL,AM,AP,AT,AU,AZ,BA,BB,BG,BR,BY,BZ,CA,CH,CN,CO,CR,CU,CZ,DE,DK,DM,DZ,EA,EC, EE,EP,ES,FI,GB,GD,GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MA, MD,MG,MK,MN,MW,MX,MZ,NO,NZ,OA,OM,PH,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TN,TR,TT, TZ,UA,UG,UZ,VN,YU,ZA,ZM,ZW

   The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on

   19 September 2002 (19.09.02) under No. WO 02/071998

4. TIME LIMITS for filing a demand for international preliminary examination and for entry into national phase

   The applicable time limit for entering the national phase will, subject to what is said in the following paragraph be 30 MONTHS from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of 19 months from the priority date, but also in respect of any designated Office, in the absence of filing of such demand, where Article22(1) as modified with effect from 1 April 2002 applies in respect of the designated Office. For further details, see PCT Gazette No.44/2001 of 1 November 2001, pages 19926, 19932 and 19934; as well as the PCT Newsletter, October and November 2001 and February 2002 issues.

   In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain designated or elected Offices. For regular updates on the applicable time limits (20,21,30 or 31 months , or other time limit), Office by Office, refer to the PCT Gazette, the PCT Newsletter and the PCT Applicant's Guide, Volume II, National Chapters, all available from WIPO's Internet site, at http://www.wipo.int/pct/en/index.html.

   For filing a demand for international preliminary examination, see the PCT Applicant's Guide, Volume I/A, Chapter IX. Only an an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II.)

   It is the applicant's sole responsibility to monitor all these limits.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.91.11

Form PCT/IB/308 (April 2002)

6101702

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

INFORMATION CONCERNING ELECTED OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

To:

GÖTEBORGS PATENTBYRÅ DAHLS AB
Sjöporten 4
S-417 64 Göteborg
Sweden

9/9-03

ANKOM
2002 -12- 04
Ström & Gulliksson IPAB

Date of mailing (day/month/year) 21 November 2002 (21.11.02)		
Applicant's or agent's file reference P16130PC/SC	IMPORTANT INFORMATION	
International application No. PCT/SE02/00366	International filing date (day/month/year) 01 March 2002 (01.03.02)	Priority date (day/month/year) 09 March 2001 (09.03.01)
Applicant MARGANA AG et al		

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

   EP :AT,BE,CH,CY,DE,DK,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE,TR
   National :AU,BG,CA,CN,DE,GB,IL,JP,KP,KR,MN,NO,PL,RO,RU,SK,US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

   AP :GH,GM,KE,LS,MW,MZ,SD,SL,SZ,TZ,UG,ZM,ZW
   EA :AM,AZ,BY,KG,KZ,MD,RU,TJ,TM
   OA :BF,BJ,CF,CG,CI,CM,GA,GN,GQ,GW,ML,MR,NE,SN,TD,TG
   National :AE,AG,AL,AM,AT,AZ,BA,BB,BR,BY,BZ,CH,CO,CR,CU,CZ,DK,DM,DZ,EC,EE,
   ES,FI,GD,GE,GH,GM,HR,HU,ID,IN,IS,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MA,MD,MG,
   MK,MW,MX,MZ,NZ,OM,PH,PT,SD,SE,SG,SI,SL,TJ,TM,TN,TR,TT,TZ,UA,UG,UZ,VN,YU,
   ZA,ZM,ZW

3. The applicant is reminded that he must enter the "national phase" **before the expiration of 30 months from the priority date** before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing , if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

   Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

   The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer: Farid ABBOU
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
P16130PC/MH		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/SE02/00366	01/03/2002	09/03/2001
International Patent Classification (IPC) or national classification and IPC A61H3/04		
Applicant MARGANA AG et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
19/09/2002	06.06.2003
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Serra-Verdaguer, J Telephone No. +49 89 2399 8198

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/SE02/00366

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:
Description, pages:

1-13 as published

Claims, No.:

1-18 with telefax of 21/02/2003

Drawings, sheets:

1/7-7/7 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 2.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 2 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 1, 3-18

	No:	Claims	
Inventive step (IS)	Yes:	Claims	1, 3-18
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1, 3-18
	No:	Claims	

2. Citations and explanations
see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Although claims 1 and 2 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness. Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection.

Hence, claims 1 and 2 do not meet the requirements of Article 6 PCT.

Given the objection raised above the claims are drafted into such an extent that their comprehensibility is considerable impaired. Hence , it is not a present practicable to carry out a full examination all the claims. Only claim 1 and claims 3 to 18 when dependent on claim 1 are fully examined.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Claim 1 does also not fulfill the requirements of Article 6 PCT for the following reasons:

    a. It is clear from the description that all the features disclosed in claim 3 are essential to the definition of the invention.
    Since independent claim 1 does not contain these features it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

b. Some of the features of claim 1 are defined vis-a-vis the castor wheels of the rollable walker. However, since the rollable walker is not claimed these features are not clearly defined. Therefore, in the understanding of the examiner, the device cannot be claimed independently of the walker. Hence, the rollable walker is an essential feature.

Given the objections raised above claim 1 is drafted into such an extent that their comprehensibility is considerable impaired.
However, since the essential features which are missing in claim 1 are in claims 3 and 18, this IPER will be carried out as if claims 1, 3 and 18 were combined.

2. The subject-matter of claim 1 combined with claims 3 and 18 differs from the device for facilitating driving a rollable walker from the document US-A-5 964 473 in that the device incorporates a movable support constituted by a member which in uninfluenced position projects in front of the castor wheels, adapted to be pushed backwards by a contact force against an obstacle under increased preload, and to be moved due to the preload in over the obstacle after lifting of the front wheel above the obstacle and spring-loaded means for moving the movable support horizontally in front of the castor wheels when it projects backwards.

It is the object of the present application to provide an alternative roller walker which can move easily over obstacles.

This object is achieved through the device disclosed in the caractherizing part of claim 1 and in claim 3.

3. None of the documents of the international search report discloses a walker provided with such a device. Also a combination of the teachings of said documents does not render obvious such a rollable walker.

4. Claim 1 combined with claims 3 and 18 therefore fulfils the requirements of Articles 33(2) and 33(3) PCT.

5. Claims 4 to 17 if dependent on claim 1, disclosing modifications of the inventive idea embodied in claim 1, also meet the requirements of Articles 33(2) and 33(3) PCT.

6. The embodiments shown in figures 4 to 9 do not fall within the scope of the claims 1 and 3 to 18. This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear (Article 6 PCT).

CLAIMS

1. A device for facilitating driving of a rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel fitted to the depending frame part and a rear pair of wheels,
c h a r a c t e r i z e d t h e r e i n,
that the device incorporates a movable support (11; 20;107; 203) attachable to the rollable walker in the area of its forward castor wheels (5, 107) and spring-loaded means for moving said movable support (11; 20;107; 203) horizontally in front of said forward castor wheels when it/they are projecting backwards, when the said front castor wheels are raised by being pivoted about the rear pair of wheels.

2. A device for facilitating driving of a rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel fitted to the depending frame part and a rear pair of wheels,
c h a r a c t e r i z e d t h e r e i n,
that the device incorporates a movable support (11; 20;107; 203) attachable to the rollable walker in the area of its forward castor wheels (5, 107) and having a weight means for moving by gravity said movable support (11; 20;107; 203) horizontally in front of said forward castor wheels when it/they are projecting backwards, when the said front castor wheels are raised by being pivoted about the rear pair of wheels.

3. A device as claimed in claim 1 or 2,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by a member which in unifluenced position projects in front of said front castor wheels, and is adapted to be pushed backwards by a contact force against an obstacle under an increased preload, and to be moved due to the preload in over the obstacle after lifting of the said front wheel above the obstacle.

4. A device as claimed in claim 3,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by a yoke (11, 20) subjected to a spring load.

5. A device as claimed in claim 3 or 4,
c h a r a c t e r i z e d t h e r e i n,
that the yoke is a segment of a track (20) of a wheel, which via a spoke (21) is turnable about a hub (22) having a bigger radius than said castor wheel.

6. A device as claimed in claim 5,
c h a r a c t e r i z e d t h e r e i n,
that the track (20) is designed thus that it for smaller obstacles operates as a wheel having a bigger diameter than the ordinary front castor wheel.

7. A device as claimed in claim 4 or 5,
c h a r a c t e r i z e d t h e r e i n,
that the yoke is equipped with an adjustable level arm (24) arranged below the front portion of the yoke and adapted to hit an obstacle before the yoke (20) hits, when driving against an obstacle.

8. A device as claimed in claim 7,
c h a r a c t e r i z e d t h e r e i n,
that the level arm (24) is provided with means (25; 26), causing the arm to be freely movable downwards to its lowermost position when the yoke (20) is in a position of rest, and which arm is freely movable upwards when the yoke is caused to move backwards.

9. A device as claimed in claim 8,
c h a r a c t e r i z e d t h e r e i n,
that the level for the lowest position of the level arm (24) is adjustable.

10. A device as claimed in claim 1 or 2,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by the front castor wheel (107) of the rollable walker, which is adapted to be rotated from its normal driving position to a position where it is projecting in forward direction above an obstacle, when said front wheels are raised.

11. A device as claimed in claim 9,
c h a r a c t e r i z e d t h e r e i n,
that the rotation of the castor wheel (107) from its normal driving position to a position projecting in the forward direction is effected by the geometrical design of the castor wheel.

12. A device as claimed in claim 9,
c h a r a c t e r i z e d t h e r e i n,
that the rotation of the castor wheel (107) from its normal driving position to a position projecting in the forward direction is effected by mechanical actuation.

13. A device as claimed in claim 1,
c h a r a c t e r i z e d t h e r e i n,
that the movable support is constituted by a track (201) for a wheel-equipped (202) curved trolley (203), adapted under spring influence to project from said track in the forward direction of the rollable walker, and to be preloaded at engagement against an obstacle ahead, for being pushed forward at subsequent raising of the front wheels of the rollable walker under influence of the spring preload, and thereby out above the obstacle.

14. A device as claimed in claim 13,
c h a r a c t e r i z e d t h e r e i n,
that th track (201) is designed thus that it operates as a wheel having bigger diameter than the ordinary front castor wheel for passage of low obstacles.

15. A device as claim d in claim 13,
c h a r a c t e r i z e d t h e r e i n,
that the trolley (203) is equipped with an adjustable level arm (24) provided under the forward part of the yoke and adapted when driving against an obstacle to hit this before the trolley (203).

16. A device as claimed in claim 15,
c h a r a c t e r i z e d t h e r e i n,
that the level arm is equipped with means, making the arm freely movable downwards to its lowest position when the yoke is in a rest position, and freely movable upwards when the yoke is brought backwards.

17. A device as claimed in claim 16,
c h a r a c t e r i z e d t h e r e i n,
that the level for the lowest position of the level arm (24) is adjustable.

18. A rollable walker of the type incorporating a chassis frame, which is supported by at least one front wheel fitted to the depending frame part and a rear pair of wheels,
c h a r a c t e r i z e d t h e r e i n,
that the rollable walker in the area of its forward wheels is provided with a movable support and means adapted to move said movable support in front of said forward castor wheels when it/they are projecting backwards, in accordance with anyone of claims 3-17.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 02/00366

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A61H 3/04
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A61H, A61G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5964473 A (DEGONDA ET AL), 12 October 1999 (12.10.99), figures 1-2,9, claims 1-13, details 12 and 17	1-2,18
A	US 4251105 A (BARKER), 17 February 1981 (17.02.81), figures 1-12, claims 1-11	1-17,18
A	WO 9846184 A1 (PRIDE HEALTH CARE, INC.), 22 October 1998 (22.10.98), figures 1-12, claims 1-11	1-17,18
A	DE 4417922 C1 (BRUSE, W.), 13 July 1995 (13.07.95), figures 1-3, claims 1-4	1-17,18

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 May 2002	24-06-2002
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer AGNETA ÄNGGÅRD/BS Telephone No. +46 8 782 25 00

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 02/00366

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5964473 A	12/10/99	AU 3837895 A	17/06/96
		CA 2181439 A	30/05/96
		CN 1138825 A	25/12/96
		EP 0740542 A	06/11/96
		JP 9507785 T	12/08/97
		WO 9615752 A	30/05/96
		FR 2727012 A,B	24/05/96
US 4251105 A	17/02/81	AT 342 T	15/11/81
		DE 2961230 D	00/00/00
		EP 0007708 A,B	06/02/80
WO 9846184 A1	22/10/98	AU 733470 B	17/05/01
		AU 7118498 A	11/11/98
		EP 0973475 A	26/01/00
		GB 2334244 A,B	18/08/99
		GB 9913770 D	00/00/00
		US 6129165 A	10/10/00
DE 4417922 C1	13/07/95	NONE	